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Aspect-Based Sentiment Analysis of News Documents using Deep Learning

AI Research & Development

Master Thesis Project

OCTOBER 2019

Project Description

Aspect-based sentiment analysis is a text analysis technique that breaks down text into aspects (attributes or components of a product or service), and then allocates each one a sentiment level (positive, negative or neutral). **The aim of this project is to analyze news documents to characterize them by means of aspect-based sentiments.**

Pre-trained neural language models such as BERT have become the state-of-the-art end-to-end models for natural language understanding. These pre-trained language models allow one to devote the efforts to fine tune these models for specific tasks. **The project consists of exploring deep learning end-to-end models, such as BERT, and their adaptations to the aspect-based sentiment analysis task.**

Working Plan & Expected Results

1. Exploratory analysis of the news Sherpa's benchmark dataset and the literature on deep-learning aspect-based sentiment analysis
2. Experimental design of an end-to-end deep learning model for aspect-based sentiment analysis
3. Report

Academic and Industrial Mentoring

- Dr. Miguel A. Veganzones (Sherpa AI Director)
- Prof. Eneko Agirre (IXA Team, EHU/UPV)

Candidate Profile

Basic knowledge of:

- R / Python
- Natural Language Processing

Interest on:

- Sentiment Analysis
- End-to-end neural language models

Benefits and Practical Information

- Funding: 650€ / Month
- Duration: 3 – 6 Months
- Location: Aula SHERPA, Fac. Informática San Sebastián

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